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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/049,322

07/17/2002

Lutz Axel May

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7590

03/24/2003

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EXAMINER

MILLER, TAKISHA S

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,322

Applicant(s)

MAY, LUTZ AXEL

Examiner

Takisha Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numbers 122, 26,28,128 and 130. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations of claim 4 must be shown or the feature(s) canceled from the claim (**interrupted annulus**). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Regarding claims 7,14,26,29 and 30 the phrase "disc-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

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6. Claim 11 recites the limitation "the material" in line 2. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 22 recites the limitation "said first and second annular regions" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Garshelis (6,145,387).

a. With respect to claims 1 and 22, Garshelis teaches a transducer element (4) for a torque or force transducer (2) comprising a member (14) having a structure which extends generally radially of an axis to transmit a stress between a radially inner region of the structure and a radially outer region (Fig. 1c), and at least one region ^{§ 10} (6,8) of permanent magnetization disposed between

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said inner and outer regions to be responsive to the transmitted stress and emanate a stress-dependent magnetic field (Col. 15, lines 25-30).

b. With respect to claim 2, Garshelis teaches a transducer element (4) in which there are two magnetized regions (8,10)(Fig.1a).

c. With respect to claim 3, Garshelis teaches a transducer element (4) in which the or each region (8,10) of permanent magnetization is arcuate with respect to said axis (Fig.1c).

d. With respect to claims 4,5 and 23, Garshelis teaches a transducer element (4) in which the or each region (8,10) of permanent magnetization is annular (Fig. 1c).

e. With respect to claim 6, Garshelis teaches a transducer element (4) in which said structure has a generally radially extending surface to which the or each magnetized region extends (Fig. 1a).

f. With respect to claims 7 and 18, Garshelis teaches a transducer element (4) in which said member (14) has a generally disc structure (Fig.1a).

g. With respect to claims 8 and 10, Garshelis teaches a transducer element (4) in which there are two regions (8,10) of permanent magnetization, each being magnetized in an axial direction and the polarities of magnetization of the two regions (8,10) being opposite (Col. 6, lines 4-6).

h. With respect to claims 9 and 11, Garshelis inherently teaches a transducer element (4) comprising a means to close a flux path between the two regions.

i. With respect to claim 12, Garshelis teaches a transducer element (4) in which there are two regions of permanent magnetization (8,10), each being circumferentially magnetized and the polarities of circumferential magnetization of the two regions (8,10) being opposite (Col. 6, lines 4-6).

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j. With respect to claims 13-14, Garshelis teaches a transducer element comprising a single region of permanent magnetization (Fig. 7), which extends obliquely to said axis. Garshelis also teaches said structure (4) is generally disc shaped and includes a step portion in which said single region is provided (Fig. 8).

k. With respect to claims 15-17, Garshelis teaches a transducer system comprising a transducer element (4) which is subjected to stress generated between said radially inner and outer regions of said structure through said at least one magnetized region (8,10) to emanate a torque-dependent magnetic field, and a sensor system comprising one or more magnetic field sensors (6) to provide a signal representing the stress generated between one and the other of said radially inner and outer regions (Fig. 1a).

l. With respect to claims 19,20,24 and 25, Garshelis teaches a transducer system in which said one or more magnetic field sensors (6) is disposed and oriented to detect a circumferential and radial magnetic field component and provide a signal representing the same (Col. 6, lines 47-61) and (Col. 30, lines 35-40) and (Col. 6, lines 4-6).

m. With respect to claim 21, Garshelis teaches a transducer system further comprising signal processing circuitry responsive to said signals representing the circumferential magnetic component and the radial magnetic field, respectively (Col. 6, lines 56-61).

10. Claims 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones (6,513,395).

a. With respect to claim 26, Jones teaches a torque or force transducer (2) assembly comprising first (12) and second (6) members coaxially disposed, said first (12) member being of greater diameter than said second member (6), a disc-shaped member (10) extending generally radially of said axis and connecting said first member (12) to said second member (6) for transmitting force from one member to the other. The disc-shaped member (10) comprising two

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magnetized annular regions (Col. 4, lines 14-17) that are at least arcuate or annular or are part annular.

b. With respect to claim 27, Jones teaches a transducer assembly which is adapted to transmit torque from one of said members to the other (Col. 3, lines 11-15)(Col. 24, lines 24-29).

c. With respect to claim 28, Jones teaches a transducer assembly in which said magnetized regions are circumferentially magnetized with opposite polarities (Col. 4, lines 14-17).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (6,513,395) in view of Imai (5,388,526).

a. Jones teaches a transducer assembly comprising first (12) and second (6) members but lacks teaching first and second members mounted to cause flexing of a disc-shaped member in response to a relative displacement of said first and second members. Imai teaches first and second members/ two annular head members (4) mounted to cause flexing of a disc-shaped member (3/4) in response to a relative displacement of said first and second members (4)(Col. 3, lines 38-41). It would have been obvious to one having ordinary skill in the art at the time of the invention to include the above limitations in Jones as taught by Imai for ease of transmission of the force.

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Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Eisenhauer (6,389,910) teaches a transmission path torque transducer.


Meixner (4,479,390) teaches a transducer for measuring torque and/or speed of rotating shaft.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Miller whose telephone number is (703) 305-4969. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

TM
March 13, 2003


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800